

In the present case, since nothing is known to the contrary, and since we rather roughly assume that the ratio is the same with all humidities, temperatures, and winds, the mean ratio for any given month must be obtained by dividing the sum total of the daily evaporations measured with one instrument by the corresponding sum total of the simultaneous observations with the other instrument. In the same way the average for several months would be the ratio of the sums of the daily evaporations for the whole period, as measured simultaneously with any two instruments.—*EDITOR.*

THE NEPHOLOGICAL REVIEW.

The students of meteorology will not be surprised to find that certain branches of this broad subject have been prosecuted to such an extent that special journals have begun to appear, such as the *Beiträge*, or Contributions to the Physics of the Free Atmosphere, which is devoted to the more difficult problems from an observational and theoretical point of view. But the newest journal, namely, *La Revue Néphologique*, published by A. Bracke, at Mons, Belgium, will appeal to a very wide circle of observers. The lessons to be learned from a study of the clouds are as yet but slightly appreciated by either observers, or theorists, or forecasters. The main trouble is that we have no simple method of recording cloud structure and phenomena. Photographs are helpful, but they tell us the internal motions of clouds only when we closely compare several photographs, taken at very short intervals of time. So very few observers are furnished with photogrammeters that we are generally forced to rely upon the very inartistic sketches of the ordinary observers. May the journal of Doctor Bracke stimulate interest and work in this important line of research, and develop a special class of observers who will investigate the minuter details of cloud formation.—*C. A.*

STORM AND HURRICANE INSURANCE IN THE WEST INDIES.

In the matter of insurance of plantations in the West Indian Islands against "damage by hurricanes," we would call attention to the general remarks of Mr. Howard E. Simpson, on "Tornado Insurance," published in the December, 1905, *REVIEW*.¹ The term "hurricane," like "tornado," can not be so defined but that the insurance companies will often be legally and properly able to evade payment of losses. It is in the interest of the insured, and of fair business dealing, to introduce into the tornado policy provisions against destruction by the directly destructive agents, i. e., wind, waves, rain, drought, frost, hail, lightning, and omit the indirect, less definite terms, tornado, hurricane, cold wave, thunderstorm, etc. For centuries we have insured against loss by accidental fire, without pretending to mention the specific agencies that may start the fire. We insure a plate glass or a mirror against loss by accidental breakage without specifying that the break must be due to a runaway horse or a stone thrown by a boy. We can not imagine that a merchant will insure his goods in the West Indies against the wind or lightning that accompanies a hurricane and not also insure it against the wind or lightning that may occur without any connection with a hurricane. The complex combinations of winds, waves, lightning, and hail involved in the idea of a hurricane, tornado, or blizzard need not enter into the text of an insurance policy, but should certainly be replaced by special mention of the directly destructive individual agents. The Weather Bureau has no desire to see the insurance business conducted in such a way that local observers will be daily called upon to testify in the courts as to whether certain destruction has been caused by a hurricane or not. At some of our stations the official in charge is overrun with subpoenas requiring him to bring his records into court and to stand a cross examination on the

weather. It is to be feared that this new departure in insurance will both increase these labors and responsibilities and also increase the ease with which insurance companies evade the payment of losses.

The rate of insurance against damage by tornadoes could, as was shown by Mr. Simpson, be included safely in the ordinary rate against loss by fire and other sources of damage or in the ordinary marine risk. The same remark may be made as to insurance against loss by hurricane. Destruction of plantations, crops, and buildings by hurricanes is a rare occurrence, and if the policy be restricted to damage done by rain or floods within a continuous twenty-four-hour period accompanying a gale or hurricane, then the risk is still further diminished. As tropical buildings of all kinds are of slight structure, and as tropical plantations rapidly recover from a hurricane, the injury done by the latter on land is apt to be overestimated. Probably the fright and the disheartenment and the change in business relations, leading sometimes to the complete desertion of the island or neighborhood, is more important than the direct loss on the property.—*C. A.*

CLOUD BANNERS.

Every one who has lived among mountains has seen the clouds formed by the currents of moist air moving up the slopes. Sometimes the strong wind prevails only near the very top of a mountain, in which case the cloud forms a hood or cap, closely fitting and hiding the mountain top. At other times we have at the top a strong wind without enough moisture to form a cap cloud, a cape, or a tablecloth, as it is sometimes called; but, nevertheless, close to leeward of the mountain top, there is a small special region of slightly lower pressure, sometimes known as a region of discontinuity, analogous in many respects to the region immediately behind a pier in the strong current of a river. Into this region the air flows from all sides, producing a mass of whirls, analogous to the eddies behind a river pier, and, as it expands into this region, it expands just enough to form a slight cloud or haze, which floats like a flag or banner to leeward of the mountain top. The appearance, like smoke or steam, is apt to deceive a careless observer, for the whole phenomenon is simply a cloud, analogous to some forms of cirri. When the mountain top is covered with snow the drifting particles caught within this region of discontinuity also produce the appearance of steam or smoke, but it is simply drifted snow. A careful record of these cloud banners would add considerably to our knowledge of local climatology, since we so rarely can have observers stationed on mountain summits.

We are indebted to Mr. G. N. Salisbury, Section Director, Seattle, Wash., for a few observations on the banners of Mount Rainier, and we hope that many more may be recorded. He states that on March 6, 1906:

The mountain was visible and entirely clear when I left my home on the hills at 7:15 a. m. About 8:30 a. m. the captain of the small excursion steamer *Acme* on Lake Washington, adjacent to this city, telephoned to me that there was apparently a heavy column of smoke or steam ascending from the peak of Mount Rainier and that a large number of people were watching it from the shore of the lake. * * * It could be plainly seen from the State University, where it was observed by Prof. Henry Landes, of the chair of geology, who declared it to be merely a good specimen of a cloud banner, due to a warm south wind blowing over the peak. Professor Landes has made several ascents of the mountain, and is well versed in mountain lore.

The phenomenon has been observed several times before. * * * A similar appearance was noticed in December, 1894, and caused some remark. The *Post-Intelligencer* sent an expedition to the mountain at that time, but of course they could not get to the top at that season, only to the 9000-foot level. It was determined that the phenomenon noticed then was caused by masses of snow being carried by violent southwest winds across the lip of the crater, giving the appearance of masses of smoke, as the snow was broken into fine particles.

There are, however, steam caverns in the crater, from the crevices of which a warm mist ascends in summer, as has been experienced by parties who have ascended the mountain and slept in the crater.

C. A.

¹ Vol. XXXIII, pp. 534-539.